West Virginia Department of Environmental Protection
Division of Air Quality

Fact Sheet

For Final Minor Modification Permitting Action Under 45CSR30 and Title V of the Clean Air Act

This Fact Sheet serves to address the changes specific to this Minor Modification, and shall be considered a supplement to the Fact Sheet corresponding with the Title V operating permit issued on January 19, 2012.

Permit Number: **R30-00300006-2012**
Application Received: **9/18/2012**
Plant Identification Number: **03-54-003-00006**
Permittee: **Capitol Cement Corporation**
Facility Name: **Martinsburg**
Mailing Address: **1826 South Queen Street, Martinsburg, WV 25401**

Permit Action Number: *MM01* Revised: *March 4, 2013*

Physical Location:	Martinsburg, Berkeley County, West Virginia
UTM Coordinates:	243.50 km Easting • 4369.00 km Northing • Zone 18
Directions:	Take south Queen Street Exit off of WV State Route 45 at Martinsburg. The facility is 0.5 miles south at the end of Queen Street.

Facility Description

Capitol Cement Corporation (Capitol) owns and operates a cement manufacturing plant, which is characterized by SIC Codes 3241 and 1422. The plant operates a preheater/precalciner (PH/PC) kiln system that uses primary coal and petcoke. The PH/PC kiln produces cement clinker, an intermediary product of cement, which is then ground into finished cement. The nominal capacity of the plant is 2,212,890 short tons (stons) per year of clinker. Capitol uses approximately 292,110 stons of coal annually and fly ash from electric power plants. Capitol also has the ability to burn petroleum hydrocarbon contaminated soils that were generated onsite in the PH/PC cement kiln. The facility has the potential to operate twenty-four (24) hours a day, seven (7) days per week, and fifty-two (52) weeks per year.

Proposed Changes

Capitol is proposing to add a new point source to account for emissions from the addition of a new rail transloader which will be part of the cement loadout system at the plant. The rail transloader is used to transfer bulk cement from cement trucks to rail cars. Recently the plant completed the commissioning of its new rail line and has started the export of cement via rail from the plant. However, the two rail loading systems that are currently being used by the plant limits the plant to exporting cement from the specific silo systems to only one rail line. The rail transloader is proposed to be located directly west of the west bank silos on a second rail line which runs through the packaging plant. The installation of the transloader will allow the plant to transfer bulk cement from any silo system to a second rail line at a rate of up to 4 trucks per hour. Since the cement trucks will only need to travel approximately 100 yards to the rail transloader its operation will result in a decrease of the current truck traffic into and out of the plant.

The rail transloader is composed of a metal framework which is constructed over the rail lines. The framework is used to support the hoses which transfer cement from the cement truck to the rail car. The cement transfer emissions are controlled by a baghouse. The baghouse and transfer is powered by a 50 hp diesel-fired engine.

Emissions Summary

Table A below lists the increase in potential emissions associated with this permitting action. Table B indicates facility PTE changes (units of tpy) for this minor modification.

Table A

Pollutant	Baghouse		Engine		Total	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
CO	--	--	0.54	0.97	**0.54**	**0.97**
NO_x	--	--	2.47	4.50	**2.47**	**4.50**
PM	1.41	2.56	0.18	0.32	**1.59**	**2.88**
PM_{10}	1.19	2.17	0.18	0.32	**1.51**	**2.49**
$PM_{2.5}$	0.42	0.77	0.18	0.32	**0.60**	**1.09**
SO_2	--	--	0.17	0.30	**0.17**	**0.30**
VOC	--	--	0.20	0.36	**0.20**	**0.36**

Table B

Pollutant	Current	MM01 Increase	Proposed
CO	4,435.98	0.97	4,436.95
NO_x	4,005.09	4.50	4,009.59
PM	918.8	2.88	921.68
PM_{10}	584.3	2.49	586.79
$PM_{2.5}$	217.89[1]	1.09	218.98
SO_2	4,507.6	0.30	4,507.9
VOC	155.96	0.36	156.32

[1] Potential emissions of $PM_{2.5}$ were transcribed from the renewal application.

Title V Program Applicability Basis

With the proposed changes associated with this modification, this facility maintains the potential to emit 4,436.95 tpy of CO; 4,009.59 tpy of NO_x; 586.79 tpy of PM_{10}; 4,507.9 tpy of SO_2; and 156.32 tpy of VOC. Due to this facility's potential to emit over 100 tons per year of criteria pollutant, Capitol Cement Corporation is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 45CSR30.

Legal and Factual Basis for Permit Conditions

The State and Federally-enforceable conditions of the Title V Operating Permits are based upon the requirements of the State of West Virginia Operating Permit Rule 45CSR30 for the purposes of Title V of the Federal Clean Air Act and the underlying applicable requirements in other state and federal rules.

The minor modification permitting action has been found to be subject to the following applicable rules:

Federal and State:	45CSR13	Construction/modification permits
	45CSR16	New Source Performance Standards
	45CSR30	Operating permit requirement
	45CSR34	Emission Standards for HAPs
	40 C.F.R. 60 Subpart IIII	NSPS for Compression Ignition Engines
	40 C.F.R. 63 Subpart LLL	Portland Cement Manufacturing MACT
Federal only:	40 C.F.R. 63 Subpart ZZZZ	RICE MACT
State Only:	None	

Each State and Federally-enforceable condition of the draft Title V Operating Permit references the specific relevant requirements of 45CSR30 or the applicable requirement upon which it is based. Any condition of the draft Title V permit that is enforceable by the State but is not Federally-enforceable is identified in the draft Title V permit as such.

The Secretary's authority to require standards under 40 C.F.R. Part 60 (NSPS), 40 C.F.R. Part 61 (NESHAPs), and 40 C.F.R. Part 63 (NESHAPs MACT) is provided in West Virginia Code §§ 22-5-1 *et seq.*, 45CSR16, 45CSR34 and 45CSR30.

Active Permits/Consent Orders

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit *(if any)*
R14-026H	12/13/2012	

Conditions from this facility's Rule 13 permit(s) governing construction-related specifications and timing requirements will not be included in the Title V Operating Permit but will remain independently enforceable under the applicable Rule 13 permit(s). All other conditions from this facility's Rule 13 permit(s) governing the source's operation and compliance have been incorporated into this Title V permit in accordance with the "General Requirement Comparison Table B," which may be downloaded from DAQ's website.

Determinations and Justifications

I. **Permit R14-026H**. Affected permit conditions have been accordingly modified as part of this permitting action. The Table below sets out the affected Title V permit conditions with a discussion detailing the changes.

R14-026H	Title V	Discussion of Changes
A.2.	4.1.2.	Change to R14-026G: Facility wide emission limits in condition A.2 were updated. Change to Title V: Revised the allowable emissions to match the underlying PSD permit limits.
A.26.	4.1.47.	Change to R14-026G: Transloader baghouse and associated emissions were added to condition A.26. Change to Title V: Added CD45.16 to the table. Revised the aggregate TSP and PM_{10} limits to match the underlying PSD permit limits.
B.1.	4.1.50. through 4.1.55.	Change to R14-026G: 40 CFR 60 Subpart IIII was added to condition B.1. Change to Title V: The underlying requirement is currently cited only in conditions 4.1.12. and 4.3.4., and both pertain to NSPS Subpart OOO. Instead of writing a general requirement to comply with NSPS Subpart IIII, the Title V permit is modified to specify the applicable Subpart IIII requirements. See Section VI of this Fact Sheet pertaining to Subpart IIII.
A.28, A.29	4.1.48. 4.1.49. 4.1.56.	Change to R14-026G: New conditions A.28 and A.29 were added. Change to Title V: New conditions 4.1.48. and 4.1.49. were added to set forth A.28. and A.29., respectively. The current permit condition 4.1.48. for Group 8 was renumbered to be 4.1.56. to account for the insertion of the new underlying permit requirements in the Group 7 Shipping Requirements section in permit subsection 4.1., as well as the NSPS Subpart IIII requirements.
A.28 A.29	4.1.48. (current) 4.1.56. (proposed) 4.3.18.	Change to R14-026G: Old conditions A.28 and A.29 were renumbered. Change to Title V: Citation in current condition 4.1.48. (proposed 4.1.56.) was changed from A.28. to A.30. Citation in 4.3.18. was changed from A.29. to A.31.
B.18.	4.2.14. 4.2.15.	Change to R14-026G: Condition B.18 was added to require monitoring of engine fuel usage. Change to Title V: New condition 4.2.14. was written to set forth B.18. The current condition 4.2.14. was renumbered as 4.2.15. to account for the insertion of the new requirement in the Shipping section in permit subsection 4.2. Since new conditions 4.1.48. and 4.1.49. contain annual limits, language has been added to new condition 4.2.14. using the authority of 45CSR§30-5.1.c. to require compliance demonstration be based on a 12-month rolling total. This should not be a problem since the underlying PSD requirement specifies that monthly records of fuel usage be maintained.

II. **45CSR16 – Standards of Performance for New Stationary Sources.** This rule is applicable since a source permitted under this permitting action is subject to 40 C.F.R. 60 Subpart IIII, which is included among the adopted standards in 45CSR§16-4.1. and are not excluded by 45CSR§16-4.1.b.

III. **45CSR30 – Requirements for Operating Permits.** The Rail Transloader was added to permit subsection 1.1. under Shipping EU7. The annual throughput was computed from the hourly rate of 846 short tons per day, multiplied by the projected operating schedule of 5 days/week and 52 weeks/year. The volumetric throughput of the baghouse was taken from Attachment M of the application.

As discussed above in Section I of this Fact Sheet, the authority of 45CSR§30-5.1.c. has been utilized in condition 4.2.14. to require compliance demonstration be based on a 12-month rolling total for the annual limitations in conditions 4.1.48. and 4.1.49.

IV. **40 C.F.R. 63 Subpart LLL – National Emission Standard for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry.** The rail transloader will be an affected source under this MACT. The substantive applicable requirement is a 10% opacity limit given by 40 C.F.R. §63.1345. Proper installation, operation and maintenance of the baghouse should provide for compliance with the opacity limit. 40 C.F.R. §63.1349(b)(2) requires Method 9 testing to ensure initial compliance with the limit.

The rail transloader is an integral part of the Group 7 Shipping EU7 part of the facility. The applicable 10% opacity limit applies to EU7, which is already specified in permit condition 3.1.20. Thus, no change is necessary for condition 3.1.20. to apply to the rail transloader. Similarly, compliance will be demonstrated by existing permit condition 3.3.3.(2)., which also specifies its applicability to EU7. Other monitoring requirements 3.2.1. and 3.2.7. are applicable to Group 7 Shipping EU7, and are therefore applicable to the rail transloader.

V. **40 C.F.R. 63 Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.** This regulation establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions.

Affected Source
The diesel-fired engine that drives the transloader is a 50-hp compression ignition (CI) stationary RICE. The facility is not a major source of HAP emissions. Since the engine will be constructed after June 12, 2006 at an area source of HAP, the engine is a *New stationary RICE* as specified in §63.6590(a)(2)(iii).

No Exemptions or Limited Requirements
Since the engine may operate 14 hours per day, 5 days per week, and 52 weeks per year, the engine is not a *Limited use stationary RICE* as defined in §63.6675. The engine does not meet any of the limited requirements in §63.6590(b) that would exempt it from being subject to Subpart ZZZZ.

Applicable Requirements
40 C.F.R. §63.6590(c) states "An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part." The engine is an affected source subject to Subpart ZZZZ, and meets the criteria in §63.6590(c)(1). Therefore, the engine will meet the requirements of 40 C.F.R. 63 Subpart ZZZZ by meeting the requirements of 40 C.F.R. 60 Subpart IIII, and no other requirements in Subpart ZZZZ apply.

Incorporation into Title V Permit

DAQ did not take delegation of the minor source provisions of 40 C.F.R. 63, Subpart ZZZZ. This fact is substantiated by 45CSR§34-4.1.d., which states, "Provisions under Subpart ZZZZ of 40 CFR Part 63 which apply to non-major area sources of hazardous air pollutants described in 40 CFR §63.6585(c) and (d) shall be excluded." Nevertheless, it is DAQ practice that Title V permits are to include the Subpart ZZZZ requirements for affected emission units. Such requirements are typically included as permit conditions that state which emission units are subject to Subpart ZZZZ, and the compliance date. Since in this case the engine meets the requirements of Subpart ZZZZ by complying with NSPS Subpart IIII without reference to any compliance date within Subpart ZZZZ, then the compliance date will be that date (if any) specified in NSPS Subpart IIII.

To account for the applicability of Subpart ZZZZ, permit conditions that set forth applicable requirements of 40 C.F.R. 60 Subpart IIII will also contain the Subpart ZZZZ citation "40 C.F.R. §63.6590(c)(1)". For the reasons already discussed, such conditions will not cite State counterpart rule 45CSR34. Refer to the discussion below concerning incorporation of NSPS Subpart IIII into the operating permit.

VI. **40 C.F.R. 60 Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines.** The engine is a 2010 model year, 2.4-liter, diesel-fired (compression ignition or CI), non-road engine. The engine meets the applicability criteria of §60.4200(a)(2)(i). Furthermore, the engine must comply with this NSPS as its means of compliance with applicable regulation 40 C.F.R. 63 Subpart ZZZZ. It should be noted that the engine is subject to NSPS Subpart IIII independently of MACT Subpart ZZZZ. In other words, if the RICE MACT did not apply, the engine would still be subject to NSPS Subpart IIII. Condition B.1. of R14-026H concurs with this determination.

Applicable requirements in §60.4204(b) specify that the owner must be in compliance with applicable emission standards in §60.4201, of which the requirements of §60.4201(a) are applicable to the engine. 40 C.F.R. §60.4211(c) allows the owner to demonstrate compliance with the regulation by purchasing an engine certified to meet the requirements of §60.4204(b). The permittee included a copy of the Certificate of Conformity with the permit application. Since there is no compliance date specified in Subpart IIII, and the permittee is purchasing an engine certified to meet the applicable requirements, it follows that compliance with Subpart IIII shall be upon start-up. The following table is an analysis of the applicability of the regulation. Sections that are applicable are indicated with bold font.

Subpart IIII Section	Title V Condition	Discussion
§60.4201(a)	4.1.50.	While the heading of this section states that it applies to an engine manufacturer, it is still applicable because applicable requirement in §60.4204(b) states that the permittee's engine must comply with emissions standards for new engines in §60.4201. Therefore, §60.4201(a) will be cited in the permit condition.
§60.4201(b)	None	The engine is less than 3,000 HP.
§60.4201(c)	None	The engine is not 2011 model year and later.
§60.4201(d)	None	§60.4201(d)(1) does not apply since the engine displacement is less than 10 liters per cylinder. §60.4201(d)(2) does not apply since the engine is not a 2013 model year and its power is less than 4,958 HP. §60.4201(d)(3) does not apply since the engine is not a 2013 model year and engine displacement is less than 15 liters per cylinder.

Subpart IIII Section	Title V Condition	Discussion
§60.4201(e)	None	§60.4201(e)(1) does not apply since the engine is not a 2013 model year. §60.4201(e)(2) does not apply since the engine is not a 2014 model year and the engine displacement is less than 10 liters per cylinder.
§60.4201(f)	None	The engine is neither in Alaska nor at a marine offshore installation.
§60.4201(g)	None	The engine is not reconstructed.
§60.4202	None	This section applies to manufacturers and to emergency engines produced by them. Since the permittee's engine is not an emergency type, this section does not apply.
§60.4203	None	This section applies to manufacturers. Since the permittee is not a manufacturer, this section does not apply. Furthermore, this requirement is identical to the applicable requirement in §60.4206, and would be redundant if applied to the engine. For these reasons, the section does not apply to the engine.
§60.4204(a)	None	The engine is not pre-2007 model year.
§60.4204(b)	4.1.50.	This section applies since the engine is 2010 model year CI ICE with a displacement less than 30 liters per cylinder. This section requires compliance with emission standards for new CI engines in §60.4201 for 2007 model year and later stationary CI ICE, as applicable. Since §60.4201(a) is the applicable requirement, the regulation language from this section will specify this particular requirement. Since the regulation designates the engine in this section as "CI ICE", these acronyms are defined by the permit writer in this first Subpart IIII permit condition.
§60.4204(c)	None	The engine displacement is less than 30 liters per cylinder.
§60.4204(d)	None	This section is for a special case in which performance tests conducted while in-use must meet not-to-exceed (NTE) standards in §60.4212. Since performance tests are not required by this regulation for the engine, this section does not apply.
§60.4204(e)	None	The engine is not modified or reconstructed.
§60.4205	None	The engine is not an emergency type.
§60.4206	4.1.51.	This section is a general requirement for owners and operators to comply with §60.4204 over the entire life of the engine. The reference to §60.4204 is made specific to applicable requirement §60.4204(b) and reference is made to condition 4.1.50. The regulation's reference to §60.4205 is not included since that section does not apply to the engine.
§60.4207(a)	None	Since the date in §60.4207(b) is later than the date in §60.4207(a), and §60.4207(b) is applicable to the engine, §60.4207(a) does not apply to the engine.
§60.4207(b)	4.1.52.	Since the engine is constructed after October 1, 2010, and is less than 30 liters per cylinder, this section is applicable to the engine. Rather than incorporating 40 C.F.R. §80.510(b) by reference, these specifications have been written in the operating permit.

Subpart IIII Section	Title V Condition	Discussion
		The last two words of this permit condition (i.e., "which are:") have been added by the permit writer for coherence. The permittee's engine is a non-road (NR) engine; thus, such fuel requirements are applicable. The non-applicable locomotive (LM) fuel sulfur content is not included in the permit condition under 4.1.52.(1).
§60.4207(c)	None	Section is reserved in the regulation.
§60.4207(d)	None	The engine displacement is less than 30 liters per cylinder.
§60.4207(e)	None	The engine does not have a national security exemption under §60.4200(d).
§60.4208	None	The permittee is not importing an engine that meets the criteria in this section.
§60.4209(a)	None	The engine is not an emergency type engine.
§60.4209(b)	None	The engine is not equipped with a diesel particulate filter to comply with emission standards in §60.4204.
§60.4210	None	The permittee is not a stationary CI IC engine manufacturer.
§§60.4211(a)(1)-(3)	4.1.53.	None of the requirements in 40 C.F.R. parts 94 and 1068 apply to the engine based on the requirements specified in applicable requirement §60.4201(a). Therefore, these non-applicable parts will not be mentioned in 4.1.53.(3).
§60.4211(b)	None	The engine is not pre-2007 model year.
§60.4211(c)	4.1.54.	The permittee has purchased an engine that is certified to the emission standards in §60.4204(b). The permittee submitted a copy of the Certificate of Conformity with the minor modification application. For this permit condition, non-applicable language regarding §60.4205(b) and fire pump engines is excluded.
§60.4211(d)	None	The permittee is not required to comply with §60.4204(c) or §60.4205(d).
§60.4211(e)	None	The engine is not modified or reconstructed.
§60.4211(f)	None	The engine is not an emergency type.
§60.4211(g)(1)	4.1.55.	This alternative compliance means is given as a condition for this engine which is less than 100-hp.
§60.4212	None	This section establishes test methods and other procedures for engines having a displacement less than 30 liters per cylinder. The first paragraph of this section states "Owners and operators of stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests pursuant to this subpart must do so according to paragraphs (a) through (e) of this section." Thus, this section does not require performance testing; it specifies how testing, if required by another applicable section in the regulation, is to be performed. The engine is subject to the requirements of §60.4211(c), which states that the permittee must comply by purchasing an engine certified to the emission standards in §60.4204(b). Inspection of other requirements in §60.4211 indicates that other engines are subject to various types of performance testing; thus, §60.4211 is where performance testing, if applicable, is

Subpart IIII Section	Title V Condition	Discussion
		required by the regulation. Since in this case the engine is purchased as certified to meet the applicable emission standards, then performance testing is not required and this section does not apply. Note, however, that this determination does not contravene the requirement to conduct performance testing if the permittee triggers such testing in §60.4211(g)(1) (permit condition 4.1.55., second paragraph, last sentence).
§60.4213	None	The engine displacement is less than 30 liters per cylinder.
§60.4214(a)	None	The engine meets none of the criteria in this section; therefore, it does not apply.
§60.4214(b)	None	The engine is not an emergency type.
§60.4214(c)	None	The engine is not equipped with a diesel particulate filter.
§60.4215	None	The engine will not be used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands.
§60.4216	None	The engine will not be used in Alaska.
§60.4217	None	The engine will combust diesel fuel, and will not combust any special fuels.

Note that R14-026H, condition B.1. is cited with all NSPS Subpart IIII conditions, as discussed above concerning the underlying permit.

VII. **45CSR7 – To Prevent and Control Particulate Matter Air Pollution from Manufacturing Processes and Associated Operations.** The rail transloader is subject to this rule. In particular, the 20% opacity limitation and mass rate limitation of 45CSR§§7-3.1. and 4.1. are applicable. To incorporate the opacity limit, the rail transloader is specified in the affected groups listed in the citation of authority for permit condition 3.1.10. Compliance with the MACT Subpart LLL ten percent opacity limit in 3.1.20. will ensure compliance with the 45CSR7 20% opacity limit in 3.1.10. The mass rate limit under 45CSR§7-4.1. for the transloader is 31.8 lb/hr. This is calculated based on a type "a" source with a maximum process rate of 70,500 lb/hr (conservative assumption of 846 tons per day divided by 24 hours). The PM emissions are limited to 0.02 gr/dscf in permit condition 4.1.47., which for the baghouse is equivalent to:

PM limit = (0.02 gr/dscf) x (8,200 dscf/min) x (60 min/hr) x (1 lb/7,000 gr) = 1.41 lb/hr.

Thus, compliance with the limitation in 4.1.47. for CD45.16 ensures compliance with 45CSR§7-4.1., which is already noted in condition 4.1.47.

Non-Applicability Determinations

The following requirements have been determined not to be applicable to the subject facility due to the following:

None.

Request for Variances or Alternatives

None.

Insignificant Activities

Insignificant emission unit(s) and activities are identified in the Title V application.

Comment Period

Beginning Date: Not applicable for minor modifications
Ending Date: N/A

All written comments should be addressed to the following individual and office:

Denton B. McDerment, PE
Title V Permit Writer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304

Procedure for Requesting Public Hearing

During the public comment period, any interested person may submit written comments on the draft permit and may request a public hearing, if no public hearing has already been scheduled. A request for public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. The Secretary shall grant such a request for a hearing if he/she concludes that a public hearing is appropriate. Any public hearing shall be held in the general area in which the facility is located.

Point of Contact

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Response to Comments (Statement of Basis)

No comments were received from U.S. EPA.